

Appl. No. 10/089,331
Atty. Docket No. 8166M
Amdt. dated August 26, 2004
Reply to Office Action of June 2, 2004
Customer No. 27752

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning on page 14, line 13, with the following amended paragraph:

Figure 7, for example, is one example of a reservoir design including a distribution channel 44. The reservoir 30 of Figure 7 includes a plurality of outlet ducts 41, a plurality of distribution apertures 42, and an elongated channel 44 which separates the chamber 47 from the distal end 43 of the assembly. Fluid flow between the chamber 47 and the channel 44 is controlled by the frangible or rupturable seal 45, which illustrates the use of a stress-concentration notch 46. The distribution channel 44 may be of a material and configuration such that it is "self-sealing" or "resealable" and collapses shut to restrict, if not preclude, fluid flow except when the chamber is substantially pressurized. For example, such a resealable channel may be formed by making two substantially parallel seals along facing layers of a pouch, where the space between these seals becomes a channel for fluid to move from the reservoir to the distribution aperture(s). The channel will naturally lay flat (and thereby closed) due to the seals, but will become almost tubular when the reservoir is pressurized and filled with fluid traveling through the channel. Upon release of the pressure, the channel will tend to naturally return to its flat state, causing a sealing effect to prevent further product delivery. The dimensions of the channel may be optimized based upon the viscosity of the product being dispensed from the reservoir. For example, a reservoir designed for dispensing a powder or a relatively thick lotion or cream product will preferably have a wider channel than a reservoir designed for dispensing a relatively lower viscosity product such as a predominantly water or alcohol based product. In one embodiment, for example, the channel width is preferably in the range from about 0.125 inches to about 0.5 inches wide, more preferably about 0.25 inches, to allow "resealing" of the channel while not requiring excessive force on the pouch to pressurize the channel. Resealing of the channel may provide for dosing or progressive fluid dispensing: for example, the sequential release of a product from the reservoir via multiple applications of pressure to the reservoir. The outlet ducts and/or the apertures may be used as desired, with one or the other being employed or both in combination. Other approaches to provide dosing capability (i.e., multiple discrete dispensing cycles) include providing multiple reservoirs on either or both sides of the applicator.

Please replace the paragraph beginning on page 18, line 18, with the following amended paragraph:

In accordance with one embodiment of the present invention, the front panel 24 preferably comprises a porous, such as a fibrous nonwoven, material through which the product within the

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reservoir 30 can be dispensed. Another applicable material would include an open cell polyethylene or polyurethane foam, such as available from Sentinel Products Corporation of Hyannis, MA. In embodiments in which the product is a liquid, the material utilized for the front panel 24 (i.e., first substrate) is preferably substantially non-absorbent and/or preferably substantially hydrophobic when utilized with water-based liquids, in order to provide for residence time of the liquid upon the target surface. Non-absorbent fibers in a nonwoven, for example, do not absorb water and thus do not swell when exposed to an aqueous based product. Exemplary fibers that may be used in a nonwoven include polyolefin, such as polyethylene and polypropylene, and polyester fibers. An acceptable nonwoven can be made, for example, by known methods such as spunlace, spunbond, meltblown, carded, air-laid, hydroentangled, and the like. Alternatively to a porous nonwoven, an apertured film or web can also be used as a porous non-absorbent material for the front panel 24. Suitable materials for use as a front panel 24 can also provide sufficient strength and texture characteristics so as to provide a scrubbing action upon the target surface and to maintain web integrity when exposed to the product. In embodiments such as where the product within the reservoir 30 is a liquid or where the front panel is exposed to a liquid during use, the front panel 24 preferably comprises a material that has a good wet strength, durability for scrubbing, low product retention characteristics, and that will not scratch or damage the target surface. A thermoplastic-based non-woven substrate such as a polypropylene, polyethylene, or polyester based non-woven substrate, for example, can effectively meet these criteria while also not absorbing water based product formulas. One such material sufficient in durability and strength to provide a cleaning surface, for example, is a spunbond polypropylene nonwoven such as from BBA Nonwovens of Simpsonville, South Carolina. Other structures such as hydroentangled materials comprising cellulose, rayon, polyester, and any combination thereof may also be used. One such set of materials are made by Dexter Corporation of Windsor Locks, CT and sold under the trade name Hydraspun®. One skilled in the art will understand that a wide range of materials can be used as long as the material of interest provides the required durability to complete the particular task.